SGS-CSTC Standards Technical Services Co., Ltd.
Shanghai Branch

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1 Cover Page

RF Exposure Evaluation Report

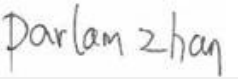
Application No.:	SHEM1806004742CR
Applicant:	Hangzhou Gubei Electronics Technoloy Co., Ltd
FCC ID:	2ACDZ-BL3335T-P
IC:	21239- BL3335T
Equipment Under Test (EUT): **NOTE:** The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	WiFi Module
Model No.:	BL3335T-P
Standards:	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06 RSS-102 Issue 5 (March 2015)
Date of Receipt:	2018-06-12
Date of Test:	2018-06-19 to 2018-06-21
Date of Issue:	2018-06-27
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Parlam Zhan
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2018-06-27	/

Authorized for issue by:				
				
		Vincent Zhu /Project Engineer		
				
		Parlam Zhan /Reviewer		

2 Contents

3 General Information

3.1 Client Information

Applicant:	Hangzhou Gubei Electronics Technoloy Co., Ltd
Address of Applicant:	Room106, No.1 Building, No. 611 Jianghong Road Binjiang, Hangzhou
Manufacturer:	Hangzhou Gubei Electronics Technoloy Co., Ltd
Address of Manufacturer:	Room106, No.1 Building, No. 611 Jianghong Road Binjiang, Hangzhou
Factory:	Hangzhou Gubei Electronics Technoloy Co., Ltd
Address of Factory:	Room106, No.1 Building, No. 611 Jianghong Road Binjiang, Hangzhou

3.2 General Description of E.U.T.

Power supply:	DC 3.3V
Antenna Gain	0 dBi
Antenna Type	PCB Antenna
Channel Spacing	5MHz
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels	802.11b/g/n(HT20):11 802.11n(HT40):7
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz

3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (Certificate No. 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program(NVLAP). Certificate No. 201034-0.

- **FCC –Designation Number: CN5033**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN5033. Test Firm Registration Number: 479755.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to§1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm^2)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

4.2 IC Radiofrequency radiation exposure limits:

According to RSS-102 section 2.5.2, RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);

• at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;

• at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);

• at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2}\ f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;

• at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

For 2.4G device, the limit of worse case is 2.68 W

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM180600474202

Test Mode	Test Channel	Ant	Power [dBm]	Tune up [dBm]	Power [mW]
11B	2412	Ant1	**18.31**	**18±1**	**79.43**
11B	2442	Ant1	17.72	**18±1**	79.43
11B	2462	Ant1	17.05	**18±1**	79.43
11G	2412	Ant1	14.59	**14±1**	31.62
11G	2442	Ant1	14.07	**14±1**	31.62
11G	2462	Ant1	13.36	**14±1**	31.62
11N20SISO	2412	Ant1	14.20	**14±1**	31.62
11N20SISO	2442	Ant1	13.74	**14±1**	31.62
11N20SISO	2462	Ant1	13.01	**14±1**	31.62
11N40SISO	2422	Ant1	14.03	**14±1**	31.62
11N40SISO	2442	Ant1	13.29	**14±1**	31.62
11N40SISO	2452	Ant1	13.07	**14±1**	31.62

5.2 MPE Calculation

The Max Conducted Peak Output Power is 79.43mW;

The best case gain of the antenna is 0dBi. 0dB logarithmic terms convert to numeric result is nearly 1

For FCC:

According to the formula $S=\frac{PG}{4R^2\pi}$, we can calculate S which is MPE.

Note:

1) P (Watts)
2) G (Antenna gain in numeric)
3) R = distance to the center of radiation of antenna (in meter) = 20cm
4) MPE limit = 1mW/cm²

$S=\frac{PG}{4R^2\pi}=\frac{79.43\times1}{4\times400\times3.14}$ =0.0158 mW/cm²＜1mW/cm²

For IC:

E.I.R.P.= P*G= 0.07943×1=0.07943W＜2.68W

So the device is exclusion from SAR test.

--End of the Report--